

COMMENTS ON TECHNICAL STANDARDS

I. FCC Advisory Committee on PCS (Para. 106).

Sprint believes the ongoing PCS-related standards efforts are adequate for promoting the timely implementation of PCS services. Sprint agrees with the Commission that there is currently no need to develop a FCC Advisory Committee on PCS to promote PCS standards or technical rules. Sprint also applauds the Commission for enabling technology trials under the experimental licensing program, and for sharing quarterly reports with the industry.

II. 2 GHz Licensed Operation.

A. Protection of Fixed Microwave Operations (Paras. 109-113).

Sprint concurs with the Commission's position of protecting existing 2 GHz fixed microwave operators from noticeable interference by new PCS entrants. In response to the Commission's specific requests for comment, Sprint offers the following suggestions:

- o Electronic Industries Association/Telecommunications Industry Association's (EIA/TIA's) TBS10-E guidelines have provided adequate protection from interference for existing point-to-point microwave users. These guidelines could and should be modified, or replaced, to provide point-to-point microwave users with adequate protection from PCS system interference.

- PCS licensees should be required to determine potential interference levels by calculating signal level contributions by all PCS base stations, portables and mobile units likely to be in use at any given time. Thus, Sprint believes the straight addition of power levels for all potential PCS devices is an overly conservative criterion that could negatively impact the economic viability of PCS systems, and could unnecessarily limit the number of customers able to operate PCS handsets, especially in areas where point-to-point microwave towers are plentiful.
- Sprint suggests that probabilistic models be used to better estimate actual interference levels to be expected at point-to-point microwave tower receivers. Standards bodies should be allowed to suggest the appropriate models based on actual measurements that verify the accuracy of such probabilistic models. Sprint believes that an approach similar to the new TIA microwave coordination criteria, which allows for greater flexibility in calculating acceptable interference levels based on the path length of the microwave system, is more appropriate for the PCS environment.
- Sprint agrees with the Commission that PCS licensees should be required to make system changes as necessary to bring interference to levels below those approved in the final standard. Sprint believes that the growth

rate of PCS services may far exceed current projections. Thus, initial interference calculations made by PCS licensees may be inadequate after several years of growth in concentrated areas. Existing point-to-point microwave users may experience higher levels of interference than originally estimated by the PCS licensees, due to high growth rates. Thus, Sprint believes that fixed point-to-point microwave users experiencing interference on their routes should be able to request a recalculation of interference levels by the PCS licensee or possibly an actual measurement at the microwave receiver input. A maximum number of requests per time period could be implemented, for example 1 per year, to protect the PCS licensees from undue re-engineering effort.

B. 2 GHz Power and Antenna Height Limits (Paras. 114-116).

Sprint believes that the cellular system today offers customers with a much desired service, vehicular mobile communications. For PCS to truly be a competitor of the cellular industry, PCS licensees must be permitted to provide competing services. Sprint's initial studies indicate that large scale deployment of a micro cell architecture over a large metropolitan area requires capital costs that are an order of magnitude higher than current wireline or cellular capital costs. Thus, larger cells that provide the necessary levels of ubiquity demanded by our customers will be required for the economic introduction of

PCS services. This is especially true in sparsely populated areas, but also a factor in the introductory stages of deployment even in the medium to large metropolitan areas.

Thus, Sprint supports the second option, as set forth in paragraph 116, which sets limits at 1000 watts and 600 meters for base stations, and up to 200 watts (EIRP) for mobiles. While Sprint does not currently envision that these extremes will be used, it is believed that the FCC will best serve the public by leaving open a window of flexibility. Market, technology, and economic forces will limit power levels and antenna heights to reasonable levels well under these guidelines. Adequate RF hazard testing should be completed prior to the mass introduction of any high powered mobile units or base stations.

C. Coordination Distance (Paras. 117-119).

Sprint concurs with the coordination distances listed in Table 1 under paragraph 119. Sprint agrees that coordination distances should be a function of antenna height and power outputs, not a single number. This methodology will provide maximum protection for the point-to-point microwave users, while simultaneously allowing maximum system engineering flexibility for the PCS licensees.

D. 2 GHz PCS-to-PCS Interference Standards (Para. 120).

Sprint concurs with the Commission's proposed 47 dBu contour curves for co-channel interference design, and the absence of adjacent channel interference limits. With the establishment of

MTA or BTA boundary lines, both co-channel and adjacent channel interference problems will be minimized due to the smaller amount of frequency boundary miles resulting from the larger license areas. Sprint believes that PCS licensees will be able to work out mutually agreeable interference issues cooperatively without Commission involvement.

E. Power Limits for 2 GHz Unlicensed Devices (Paras. 121-124).

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Due to the proximity of the unlicensed and licensed PCS spectrum, Sprint is concerned about the potential for adjacent channel interference between unlicensed devices and PCS mobiles or portables in the 1930 MHz range. Sprint concurs with the Commission's efforts to limit peak power for unlicensed devices, as specified in Appendix A.

III. RF Hazards (Paras. 131-132).

Sprint agrees that the U.S. Food and Drug Administration, and not the FCC, should continue to be responsible for administering the performance standards associated with radiation from electronic products.

IV. International Issues (Paras. 133-139).

Sprint agrees that the Commission should act as expeditiously as possible to license PCS services in the U.S. This will help the U.S. maintain its global telecommunications lead. Major U.S. telecom vendors are already diverting resources from the U.S. to meet the market needs of foreign countries because

spectrum and licenses authority to provide PCS services here in the U.S have not been authorized. Obviously, participation in the international frequency coordination process, leading to U.S. equipment that is compatible with international equipment, will make U.S. service offerings more attractive to the international clientele.

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing "Comments" of Sprint Corporation have been sent via first class mail, postage prepaid, on this the 9th day of November, 1992, to the below-listed parties:

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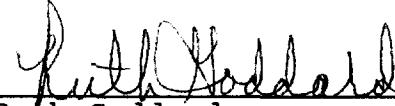
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